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SELECTION METHODS IN INDUSTRY AND IN THE U. S. NAVY
TO FILL LEADERSHIP POSITIONS: A COMPARATIVE STUDY
OF THE CHOICE OF FOREMEN AND PETTY OFFICERS

A Thesis

Presented in Partial Fulfillment of the Requirements
for the Degree Master of Science in Public Administration

By

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PREFACE

This thesis, presented for the degree of Master of Science in Public Administration has been written under the auspices of the Navy Department, Post-Graduate School, and of the Graduate School, The Ohio State University. The selection of the topic, the materials for Chapter III, and the conclusions and recommendations, reflect the author's experience as a Naval officer. This experience, covering a period of ten years, has been mainly in the field of shipboard administration. Five years of it have been spent as executive officer of several different destroyers.

The author is indebted to many persons in the industrial world for interest in this work and for generously giving of their time and experience in the field of personnel selection. Especially worthy of thanks in this respect are C. A. Copp, Manager, Industrial Relations Division, and E. W. Meyers, Director, Education Department, of the Frigidaire Division of General Motors; J. H. Ayres, Personnel Relations Staff, Armco Steel Corporation; H. L. Faucett, Training Director, and Dr. R. S. Uhrbrock, Industrial Psychologist, Proctor and Gamble Company; and R. E. Kline, Director of Training, National Cash Register Company.

CHAPTER I

STATEMENT OF THE PROBLEM

Two factors are crucial in the selection of men for appointment or promotion to positions involving supervisory responsibilities. One is the man's technical ability, and the other is his ability as a leader and manager. The first of these is comparatively easy to determine. Observation of his work, his production record, his record of errors and other statistical information that will be available in the particular situation furnish reliable guides. In addition, he can be tested through performance tests and written tests which indicate whether the candidate has the required knowledge or skill.

The second factor presents problems for which there is no such easy solution. The ability of the selector or selectors to observe and measure the qualifications of the man accurately with respect to leadership will materially affect the operating efficiency of the organization as a whole, once the man is selected and put into the new situation. It is with this second factor, and the methods used by Industry and the Navy to determine its measurement that this work is concerned.

A simple illustration, of an extreme character, though at a low level of responsibility, will illustrate the

importance of taking the leadership factor into full account before a promotion is made. This shall be called the case study of 'Seaman X.'

The Navy procedure¹ for promotion in effect at the time covered in this case was briefly as follows: As the need arose, the Bureau of Naval Personnel authorized the appropriate commanders in various areas to prepare and administer examinations for advancement in ratings. The area commanders in turn requested the individual commanding officers in ships and stations to submit names of persons recommended for advancement in rate, and who were eligible from the standpoint of length of service and other considerations at the time that the rating examinations were given. After the names were submitted to the area commanders, examinations were prepared and distributed. These examinations were then administered on the same date throughout the fleet. The examinations were then marked by the officers attached to the ship or station and the examination grade was combined with two other factors, total naval service, and length of service in the present grade, to provide a weighted over-all grade for each candidate. The candidate's grade was then compared with the grades of all other candidates for the promotion grade and a list was published indicating the relative

¹ Since changed. See Chapter III.

standing of the successful candidates by rate throughout the fleet. As vacancies in the rates occurred, the commanding officers were authorized to promote the men. The commanding officer then had three opportunities to review and approve, or disapprove, a man for a rate before the final rate was effected. (1) When the man was first recommended for the test; (2) When the man was allowed to take the test; and (3) When the vacancy occurred and the advancement was authorized.

This authority was vested in the commanding officer, but in actuality, excepting in unusual cases, the determination of advancement rested with the executive officer, who is the commanding officer's direct representative, and is responsible for the actual training and promotion of enlisted personnel. So, in fact, the commanding officer might be unaware of the promotion of any individual man until the promotion came to him for signature. Even then, unless he has had an opportunity to observe the man working, he would rely on the advice of the executive officer. The recommendation for promotion however, must come to the Executive Officer from the Division Officer via the Head of Department concerned.

In 1948, 'Seaman X', aged 22, was attached to a destroyer with the United States Pacific Fleet. He was a member of the department concerned with the operation of the radars of the ship, and as such was considered a qualified

radar operator. He was just completing four years of service in the Navy and was considering re-enlisting for another tour of duty. 'Seaman X' had an intelligence test score sufficiently above average to permit him to have been sent to radar school and satisfactorily complete the course for radarmen. His shipboard record in other respects was, up to the period in question, average.

The duties of 'Seaman X' placed him in an operating space-Combat Information Center-which is, in battle, directly under the supervision and operational control of the Executive Officer, so this Officer² had ample opportunity to observe his performance personally.

In April, 1948, in accordance with current directives, 'Seaman X' was recommended as a candidate for the examination for petty officer third class (radarman) by his Division Officer. With the approval of the Head of Department, the Division Officer made this recommendation directly to the Executive Officer, who demurred on the basis that 'Seaman X' was not carrying his full load in the organization and that even though professionally qualified, he had not demonstrated sufficient leadership qualities. After several conferences on the subject, it was decided to recommend 'Seaman X' and allow him to take the examinations. This course of action

2

The author

was taken with the idea that if 'Seaman X's' leadership performance did not improve it would still not be too late to disapprove a promotion. 'Seaman X' was informed of the decision of the Executive Officer and the Division Officer by the Division Officer, and he was told the substance of the conversation between the two officers in order that he might have an opportunity to improve his performance before any promotions were made.

The examinations were received and administered and as had been expected 'Seaman X' did quite well in the examination and his name was submitted for promotion. At this time, 'Seaman X' re-enlisted for an additional four years. While his performance was satisfactory, there was no apparent improvement in his leadership performance. In the course of time, the Executive Officer found himself confronted with the authorization to promote 'Seaman X' but had grave misgivings as to the advisability of such a step. After further conferences with the Commanding Officer, the Head of Department, and the Division Officer, it was decided that possibly the additional responsibility of the rate would encourage a better performance, and 'Seaman X' was promoted.

The ideal ending for this story would be that 'Seaman X' became an indispensable part of the organization. Unfortunately, as is too often the case, this was not true.

The added authority as a supervisor meant only to 'Seaman X' that hereafter someone else would have to do the work, and he rapidly became a burden to the organization. Conferences with the man and advice and warnings from the Division Officer and the Executive Officer did not seem to change the situation, and his poor performance soon came to the attention of the Commanding Officer. A few months later when the newly promoted petty officer became involved in a fight ashore, (as could be expected and predicted) the Commanding Officer took the opportunity to revoke the rating and return the man to his seaman's status. 'Seaman X' then felt that the 'world was against him,' and despite further conferences and consultations with his officers and leading petty officers, his case progressed to the point where he made several vague threats, and was sent to a hospital for psychiatric observation. The results of this observation were, in the opinion of the medical officers concerned, that "Seaman X' is aware of his shortcomings, and of the responsibilities he faces, and it is recommended that he be allowed to work the situation out for himself.' The man's final solution was to go Absent Without Leave during his transit to a new command, with the avowed purpose of forcing the Navy to give him a Dishonorable Discharge.³

³Information for this case study taken from the service record (name confidential) on file at the Bureau of Naval Personnel, Navy Department, Washington, D.C.

This story is only too clear in its implications; it presents a case of poor selection and the subsequent results leave much to be desired. The Executive Officer erred in allowing the promotion in the first place, and from that stage on, the course of events progressed to an inevitable conclusion. While this case represents the unusual, in its ultimate outcome, there are many cases where unhappiness has resulted from inadequate selection methods.

The scope of this study has been further narrowed down to consideration of the original selection for positions involving the primary exercise of leadership, that is, the process of selecting to secure candidates for the first job or step above the worker level, where leadership is required. At this level a critical decision is made both from the organization's and from the employee's viewpoints. R. C. Oberdahn, Director of Training and Testing for the Calco Chemical Division, American Cyanamid Company, in discussing selection methods, and particularly the method of advancing the best operator without consideration of the leadership factor states: "In every case we lost an outstanding mechanic or operator, and only occasionally, with this method of selection, did we find a good foreman."⁴

⁴R. C. Oberdahn, "Organizing for Supervisory and Executive Training," Personnel Series No. 47 (New York City, American Management Association, 1941), p. 15.

The original selection is even more critical in the Navy since it is not possible to demote a man once he is selected, simply on the basis that he does not demonstrate exceptional, or even average leadership qualities. Before demotion can occur the man must be demonstrably well below average, and the judgment of the commanding officer in effecting such a reduction must be substantiated.⁵ Further, such errors in original appointments or promotions to positions involving leadership responsibilities often have a cumulative result, or at least a continuing detrimental effect on the naval organization. This is because of special Navy personnel policies, to be discussed in the following paragraphs, that by their very nature and requirements are not subject to change.

There are factors of personnel policy peculiar to the Navy which are not present in Industry. Such problems make the job of proper and satisfactory selection in the Navy more acute. These factors are: (1) Permanent tenure; (2) Universal rate structure throughout the Navy; (3) A unique system of rotation and transfer from job to job; (4) A promotion policy based on a career concept and the idea that promotion must follow continued service in order to insure adequate income; (5) The individuality of each

⁵ Bureau of Naval Personnel, Bureau of Naval Personnel Manual (Washington, D.C., GPO, 1948), Art. C-7211, p. 149.

command within the Navy as a whole.

Permanent Tenure. By permanent tenure is meant the period of employment in the Navy is agreed upon in advance by contractual arrangement between the enlistee and the government and is usually for a term of four or six years. The Navy is committed to accept the man for re-enlistment unless there is record of some specific misconduct or impaired health on his part. While the commanding officer is authorized to, and sometimes does, refuse to re-enlist a man at the expiration of his enlistment, it is seldom done solely because he has not shown leadership potential. In addition, once the man is enlisted, or re-enlisted, he is with the organization for the full time specified, regardless of promotion or lack of it.

Universal Rate Structure Throughout the Navy. The Navy non-commissioned supervisory system is composed of four skill levels of enlisted ratings, all known as petty officers, and progressing from third class to second class to first class and to chief petty officer. There are approximately sixty general service ratings at each skill level. A rating is defined as a "...name given to an occupation which requires, basically, related aptitudes, training, experience, knowledge, and skills...."⁶ A general service rating is

⁶ Bureau of Naval Personnel, Manual of Qualifications for Advancement in Rating (Washington, D.C., GPO, Feb. 1949 Revision), p. iii.

"...a peacetime occupation which encompasses a broad and comprehensive occupational area. In peacetime, this is the rating held by personnel on active duty in the regular Navy...."⁷

Thus, the rate of machinist's mate, third class, is expected to indicate, within individual differences, the same level of skill, and the same leadership ability, throughout the Naval establishment, so that in theory, such a rated man could be sent to any situation where the services of a man of this rating were needed, and the job there could be satisfactorily filled by him.

Rotation and Transfer of Personnel System: While the policy of the Navy Department is to attempt to maintain stability of personnel in the enlisted ranks, the fluctuating demands often made upon the operating forces of the Navy by circumstances beyond the control of the organization itself, the changing policy with regard to size and composition of the Navy and the necessity to rotate personnel between ship and shore assignments all make it extremely difficult to keep enlisted personnel on the same ship or duty station for long periods of time. Thus a man may be rated on one ship, and soon thereafter be transferred to another command, either at the direction of higher authority, or at the request of the

⁷
Loc. cit.

Commanding Officer of the station concerned. As men are trained and advanced in ratings, an excess in the higher ratings on one ship or station may arise often depending on the efficiency of the individual training system, and those in excess of an authorized allowance of personnel are subject to transfer to another station where a shortage may exist. Shortages will arise through expiration of enlistments, retirements, shore duty rotation, hospitalizations and other casual causes. The system therefore must be, and is, based on the assumption of high fluidity of personnel assignment and transfer. This in itself tends to lower the criteria established by some commands in their promotion policy. Further, the officer staff of the command is continually rotating, at shorter intervals as the officers become more senior, so that the officer usually doesn't have to live with a selection mistake of his own for more than a few months, and then the buck can be passed to his successor.

Promotion Policy Based on Career and Forced Promotion:

While it is not impossible for a man to serve twenty or thirty years in the Navy as a seaman, such service is not the rule. The pay of enlisted personnel is so scaled that a man desiring to marry and maintain a family must advance in rating to petty officer in order to be able to support his dependents adequately. If he is unable to advance, he usually finds it to his benefit to return to civilian life at

the end of his first tour of duty. The Navy school system and the Navy's advancement program are based on the orderly promotion of all personnel who remain in the service for more than one tour of duty, and thus even an average man who is in his second tour will be considered for promotion even though he has not demonstrated any exceptional ability along the leadership lines. Because of the technical requirements of the various shipboard jobs, the Navy promotes this idea of a career service, and to do this, it must hold forth the incentive of a continuous advancement. Therefore the system is based on the concept that all third class selectees should eventually become eligible for further promotion, until they finally become chief petty officers. Thus, there is a necessity for extreme care in the selection of those who are to make up the third class petty officer ranks.

The Individuality of Each Command Within the Navy as a Whole: Each ship and station is under the authority of a commanding officer whose duties are laid down in The Articles for the Government of the Navy and Navy Regulations. These commanders exercise military and operational authority over those under their command. While quotas for advancement in rating are usually fleet wide, as was stated previously, the authority to advance, within the quota established, rests with the individual commanding officer. Each commander is further responsible for the operating efficiency of his organization,

and is not generally subject to close supervision. Thus the means of attaining operating efficiency will vary with the commanding officer, and the standards set for the particular unit will be his standards. This leaves room for promotion over a large range of efficiency by different commanders and the net result is that a third class gunner's mate from one command may be a much better, or worse, petty officer than his running mate on the ship alongside.

In reading the following chapters it must be borne in mind that the situation with respect to selection in Industry is not necessarily applicable as a whole to a system of selection for the Navy. The factors just mentioned will limit somewhat the choice of industrial methods that can be made to work satisfactorily in the Naval organization. Each industry studied will also have its individual problems, and ways of meeting them on the basis of its own organizational structure. However, the discovery of a trend or of a factor or factors of selection shown to be common to all industries studied should present a situation worthy of careful evaluation.

The next chapter will endeavor to present a picture of the methods used by the individual industries studied. The picture presented results from personal surveys of the systems in effect in these industries.

The industrial organizations discussed in the following chapter do not represent all of the organizations visited by the writer. The organizations selected are those whose

personnel policies are considered well above average and they are organizations whose systems of selection and promotion have shown that the management was aware of the importance of sound selection procedure.

The problem then, to sum up this chapter, is to discover whether there are industrial personnel techniques for taking account of leadership qualities in promotions to first level supervisory positions which may be advantageously applied in the Navy.

CHAPTER II

INDUSTRIAL TECHNIQUES: A SAMPLING

The process of personnel administration as it concerns promotion to the supervisory level in Industry appears to include four general steps; identification of the candidate, testing, training, and selection. It is with these general steps as they are effected in the individual industrial organizations that this survey will concern itself. However, it is acknowledged that each organization has its own methods for the orderly advancement of personnel and the discussion of each sampling will have to be expanded to include all pertinent information relative to selection and promotion within that organization.

One of the organizations visited, the Frigidaire Division, is a sub-division of a parent organization, the General Motors Corporation. The other three organizations are autonomous. In the case of the Frigidaire Division, many of the broad major policies are laid down by the parent organization, and thus matters such as union contracts are negotiated by the General Motors Corporation. In this respect, there was no information offered the writer to indicate that union contracts or other union agreements in any way affected the personnel promotion plans of any of the four organizations described in this sampling. All of the

organizations appeared to work in close harmony with their various unions, and selection for promotion did not seem to be a subject of union concern.

The Proctor and Gamble Company

The Proctor and Gamble Company, with main offices and factories at Cincinnati, Ohio, manufactures soaps and edible fat products. The organization in part consists of fourteen manufacturing plants located throughout the United States. Of these, three are located at Ivorydale, Cincinnati, Ohio. The Company's organization is composed of two main divisions which operate autonomously. These are manufacturing and research, and sales. This discussion will be confined to the manufacturing organization. The material presented herein is a result of observations at the manufacturing plants at Ivorydale, and of discussions with management personnel in the main Industrial offices at Ivorydale where supervisory and advisory control of the industrial organization as a whole is exercised. The term Company, as used herein, will refer only to the industrial phase of the Proctor and Gamble Company as a whole.

The Company employs about ten thousand persons in the fourteen plants, and about three thousand five-hundred of this group are employed in the three plants at Ivorydale. Of this latter group there are about two hundred foremen in the manufacturing process. This group is exclusive of about

one hundred other persons at the foreman level who are engaged in research activities. The promotion rate to foreman at Ivorydale is about eighteen per year of whom eight or ten are selected from college level trainees; a program which will be explained in detail in discussions following.

The Company is organized on a straight line organization plan, headed by a vice-president in charge of manufacturing. Each factory is under the control of a factory superintendent, and this superintendent is responsible for the organization and operation of his factory, thus providing autonomous control at each factory level. The factory superintendent is assisted by about seven production supervisors, responsible for the individual processes of manufacture with which he is concerned. The supervisor has under him foremen, the number varying with the size and complexity of the process of that particular phase of manufacturing. The foreman then, represents the lowest level of supervision.

Promotion to the foreman level is accomplished by two methods in this Company. Hourly wage personnel (the workers) are promoted to the foreman level; and college graduate trainees are promoted to the foreman level after a year of intensive schooling in the plant. These methods will be discussed below. With the exception of the selection and employment of college graduates at graduation in the furtherance of this special program, all promotion to all levels is

from within the organization. This promotion may be within one individual plant, or may be across plants, depending on vacancies and the capabilities of the individuals under consideration for promotion to the foreman level. It is of interest to note that at the present time, even with the college program providing a large portion of the influx of trainees, it has been estimated that sixty per cent of the current management is of non-college level.¹

In addition to the autonomous organization of each factory, there is, in the main office, and industrial staff organization under the vice-president in charge of manufacturing. This staff is composed of the research personnel, a Training Division and an Industrial Relations Division. The functions of the staff are advisory and the final decisions within each plant rest with the factory superintendent. This staff develops training programs, maintains a testing organization, and does initial selection interviewing for employment. However, in all cases, the interested foreman interviews each prospective employee who is to be placed under him, and his factory superintendent makes the final decision both as to promotion and employment of all personnel in his plant.

¹According to Mr. H. L. Fossett, Training Director, Proctor and Gamble.

In addition to a training director and industrial relations personnel, the services of an industrial psychologist are available at the staff level.

Employment Records: An important influence on the design and keeping of employment records is the Company policy that all hourly personnel who have been with the Company for a period of two years are thereafter guaranteed forty-eight weeks work per year. This, in addition to the usual social security and other retirement provisions, is designed to make for job security, and is in all probability one of the major factors contributing towards a low turnover of personnel.

At the time of employment the following forms are made out for each applicant: 1. Application for Employment; 2. Department Record of Employee; 3. Personnel Record; 4. Employee's Rating; 5. Rating for New Employees.

The Application for Employment contains the standard information for this type of form, including significant education, physical condition, number of dependents, record of previous employment, military service and so forth.

The Department Record of Employee is a form kept current by the foreman. It provides for a running recording of the job and department where the man is working, the rate or rates held, a merit rating score and notation of disciplinary action or special commendations. This is a foreman's

record, and is maintained by him.

The Personnel Record contains the same information as the Application for Employment and the Department Record of Employee except that it does not note the merit rating scores and contains in addition test scores resulting from tests given at the time of employment.

The Employee's rating card is filled out on each hourly employed person once every six months and is an evaluation card, on which the merit rating grade is based. This card contains four rating factors as follows:

"QUANTITY A thoroughly experienced workman who consistently meets standard requirements of output in a skilled manner is considered NORMAL. For workers not on Time Bonus full time consider only 'Day Work' performance.

"QUALITY Consider as NORMAL the employee who consistently produces work of required quality. Consider loss or depreciation directly traceable to him.

"DEPENDABILITY The NORMAL employee is trustworthy, steady, reliable, seldom tardy, or absent. Observes safety regulations, cooperates with foreman and fellow workers and acts to maintain good operations. Is careful with tools and equipment.

"VERSATILITY Consider as NORMAL the employee who is able to perform most types of work within or related to his present occupation. Consider his ability in learning new assignments and changes in procedure."

The rating card provides three choices for each of the above factors: Below Normal, Normal, and Above Normal. Each employee is normally rated by three people, his foreman, the supervisor, and the cognizant industrial engineer, who

occupies a staff position on the foreman level in each factory.

The Rating for New Employees form is made out for all new hourly wage employees once each month for the first six months; and once every two months for the balance of two years by the foreman, the industrial engineer and the supervisor. The instructions for rating are as follows:

In rating the employees listed below, consider how well they do their work; how they cooperate with their foreman and other employees; whether they are reliable; whether they understand and follow instructions; whether they follow safe practices; and whether they are physically qualified for their work; all of the above to determine whether they are of permanent caliber.

The form contains space for notation of months of service, and a general rating based on the above instructions within the following range:

Unquestionably satisfactory.
 Making good progress; further observations needed.
 Average worker, but not outstanding prospect.
 Doubtful caliber.
 Should be terminated.

and SAFE WORKER (Yes - No).

Testing: The thought within this Company on testing is that large batteries of tests do not significantly increase management's ability to predict success or failure, and that the best that can currently be done with any degree of validity is to test for general intelligence level, and for the degree of mechanical ability needed by this

organization.² To that end the Company gives two tests, one for general intelligence and one for mechanical ability. The writer was unable to elicit any specific information on correlation coefficients on these tests. Both tests have been made by the Proctor and Gamble Company for their own use and therefore are not subject to general publication.

Training: The Company conducts no training schools as such, preferring to rely on the foreman and the supervisor for on-the-job training. After a man is tentatively selected for foreman, he is subjected to an intensive twenty week course of training on Company time, designed to include all items required in his prospective position, and varied on the basis of his past experience in the organization. This course includes practical work in the plant, reading of books on both the technical and leadership aspect of the foreman's job, and a series of meetings with foremen and supervisors best qualified to conduct sessions in their specialized field. Each trainee is personally coached by his immediate supervisor at least one-half hour per week, and is brought to the main Industrial Office in Ivorydale for a week of indoctrination in Company policy and procedures.

Selection: (1) College Graduates. This Company conducts a large scale recruiting program throughout the nation's

²According to Dr. R. S. Uhrbrock, Industrial Psychologist, Proctor and Gamble Company.

colleges and universities, testing and interviewing in approximately eighty institutions. The Industrial Relations Department is interested primarily in the interviewing and selection of personnel for the foreman level, and to further this policy, each plant superintendent conducts interviews in educational institutions in his own area. This program is augmented by the staff work of the home office, the college interviewers making field trips to assist in the interviewing and evaluation of candidates. These candidates are selected on the basis of the two tests previously mentioned, recommendations of the university authorities, and on the personal judgment of the Company interviewers. The purpose of this program is to channel into the Company a group of young men with the technical and general educational background considered necessary for rapid promotion. The policy of the Company is to promote as rapidly as possible in order that the supervisory positions may be filled by young men with many years of useful service ahead of them, (the President of the Company is now 45) and to provide a nucleus for further expansion. The members of the Company staff interviewed by the writer said they felt that 'other things being equal' the personal impressions gained by the interviewers were the determining factors in the selection and employment of these college graduates. It was estimated that between thirty and forty per cent of those selected by this method became the type of executive that the interviewers had in

mind at the time of the interview.

(2) From the Ranks. In addition to the college selection procedure, the supervisors and factory managers and foremen are constantly evaluating the hourly wage personnel with an eye toward promotion to the foreman level and up. Normally consideration is not given to actual promotion until it is apparent that a vacancy will exist. At this time the foreman will recommend all, or several of his men for the job. The records of men so recommended are collected and reviewed, first by the foreman, the supervisor, and an industrial relations man independently, and finally by the factory superintendent. This review of the records is followed by a conference of this group, frequently augmented by personnel from the industrial relations staff from the head office. The records are again reviewed, and a selection is made on the basis of the record and the personal evaluation of the conferring group as a whole. As was stated earlier, the final choice lies with the factory superintendent. Those men finally selected are put through a twenty week course as in the case of the college graduate, but modified to take into account the experience of the individual concerned.

In summation then, it can be said that in the case of the Proctor and Gamble Company, the main criteria for the selection of foremen are the personal evaluations by his

seniors. The use of tests is limited to insuring that the man has the necessary adaptability or potential. While evaluation aids, in the form of the merit rating scores and production performance are available to assist in the forming of opinions, the personnel interviewed by the author were unanimous in their individual statements that the organization operated on the principle that the conference and pooling of evaluations provided the best predictive device with respect to the evaluation of leadership potential in the selection of foremen.

The Frigidaire Division of General Motors Corporation

The Frigidaire Division of General Motors Corporation is one of several semi-independent organizations within the Household Appliance Division of the parent corporation. This division manufactures refrigerators, air conditioning equipment, industrial refrigeration equipment, household appliances and allied products. Standard policies laid down by the General Motors Corporation govern this division which operates under a General Manager, the top executive head of Frigidaire. The division employs over twenty-two thousand persons at four plants, all located in or near Dayton, Ohio. Approximately seventeen thousand, six hundred persons are actively engaged in the manufacturing operation. Frigidaire has a line and staff organization in which the manufacturing department or division is one of eight. In order to differentiate between

terms in this discussion, future reference to 'division' will refer to the Frigidaire Division as a part of the parent organization, and reference to the Manufacturing Division or other divisions such as the Industrial Relations Division will refer to that division within the Frigidaire organization as noted above.

The Manufacturing Division is headed by a Works Manager. Assisting the Works Manager, and following down the line of command in the organization is a General Superintendent, a Production Superintendent, supervisors, general foremen, and foremen. Supervisors cover an area or process of manufacturing, and are assisted by several general foremen, who in turn have under them as many foremen as the process or area of their work justifies. There are about seven hundred and ninety foremen engaged in the supervision of the seventeen thousand workers. The foreman represents the lowest level of management, and it is to this position that the hourly worker is advanced. In other words, the foreman level represents the first level of leadership within the division structure. The promotion rate to this level has been estimated at from forty to fifty persons per year.³

Within the Industrial Relations Division, a staff organization at the same level as the Manufacturing Division,

³ According to Mr. C. A. Copp, Manager, Industrial Relations Division, Frigidaire Division, General Motors Corporation.

is the Education Department which is responsible for the training and testing of all personnel to be selected for promotion to the management level. This department has available tests and testing equipment, to be discussed later, as well as the advisory assistance of General Motors' industrial psychologists at the headquarters of the General Motors Corporation in Detroit, Michigan. The work done by the Education Department is for the purpose of advice and assistance to the line divisions, as all final decisions are made by the line personnel.

Records: The records used in selection and evaluation are: (1) The Employment and Work Record, which contains the employment application listing such factors as dependents, financial status, educational background, previous work experience, military status, and other items of routine nature typical of this type of form. Into this record, as time progresses go notations of disciplinary action taken, grievances submitted and action taken, suggestions for plant improvement and other items which might serve to establish some character picture of the man; (2) The Questionnaire, or test record. This record is in the form of a test profile, and is not compiled until the employee has been selected for the potential foreman list.

Testing and Evaluation: The Frigidaire Division uses a battery of five tests in the establishment of a profile

for the potential foremen. These tests are the Wunderlic Personnel Test 'A' for mental alertness, the Bennett and Fry Mechanical Computation test, the Minnesota Paper Form Board test, the Kuder Preference test, and the Guilford-Martin Personnel Inventory test. While there were no statistical studies on validity of these tests made available to the writer, members of the Educational Department stated that the tests had acquired a high face validity through use. It was indicated that this was true to the extent that the supervisors, on whom the final selection of foremen rests, had become unwilling to recommend anyone for foreman whose test profile showed any serious lack of characteristics considered important for the foreman job. Some study of the results has been undertaken and is continuing. In addition it was reported that Dr. Guilford had based some validity studies on tests conducted by Frigidaire using the Guilford-Martin Personnel Inventory test and subsequent ratings of tested personnel made by their supervisors. It was suggested that possibly one of the factors in improved selection procedures might be a result of this high face validity of the tests, thus causing the supervisor to be more discerning in his scrutiny of those recommended for the potential foreman list.

A further validation study is in the process of being conducted on the basis of comparing the test results with

supervisory evaluation at later periods, after the selected personnel have been promoted to the foreman ranks. This study is conducted by having the General Superintendent, the Superintendent, and the Supervisor rate each foreman on a card 'sorting' basis, into five categories. This sorting is done independently by these three men without knowledge of the other raters' marks. These three marks are then brought to an average to indicate the performance of the foreman under question. Since this system was put into effect five years ago, it has been found that by using the system of screening, interviewing and testing the performance of the foremen personnel has shown significant improvement.

Selection: Selection of personnel for promotion is generally made from within the division, and selection may be, and frequently is, across departments in the division. The actual routine for selection of personnel in Manufacturing (Production) follows:

The supervisors prepare a list of persons in their departments whom they consider to have the potential qualifications for foreman work. In practice this list is a continuing affair and should be readily available at any time. In making the notations for selection, the supervisors are instructed to counsel with their general foremen and foremen; however, the employees under consideration are not informed of the deliberations taking place, or of any relative

standing insofar as selection is concerned. In the consideration of selection of a potential foreman by the persons mentioned above, the following items or points are used as a basis for comparison.⁴

- Character
- Citizenship
- Personality
- Loyalty
- Job Knowledge
- Education and Technical Training
- Personal Appearance
- Co-operation
- Quality and Quantity of Work on Present Job
- Suggestions and New Ideas

Lists of personnel considered qualified under the above criteria are forwarded to the General Superintendent via the Manufacturing Division (Production) Superintendent when called for, for his review and approval. This list is then used as a basis for extracting all the work records of the men named thereon for review by the Works Manager, (Head of the Manufacturing Division) or his representatives. Any personnel with unfavorable records have their names removed from the master potential foreman list and the superintendents of such men are informed of such removals and the reason for the removal.

After this general personal screening and screening of records has taken place, those passing the screening will be interviewed by the General Superintendent of the Manufacturing Division. During this interview, if the General

⁴ Frigidaire Selection Memorandum, Revised February 8, 1950.

Superintendent is favorably impressed with the interviewee, he will determine from the employee if he is desirous of becoming a member of a so-called 'potential' group. However, the employee is told that membership in this group, or further successful completion of the other requirements such as the testing and training course do not in themselves give him any automatic rights in the selection of future foremen. If the employee signifies his interest, he is informed that he will be required to fill out a series of questionnaires (which are actually personnel tests), as have all members of factory supervision before him. These tests are conducted by the Educational Department. If the employee declines to take these tests, or does not desire to become a member of the potential group, his name will be removed from the list at this point, and his supervisor is so informed. The list as approved after interviews by the General Superintendent becomes the final list of potential foremen. When this list has been approved, the men are then tested by the Education Department, and test profiles are made up on the basis of the test results. These profiles are confidential, known only to the superintendents and the Educational Department personnel concerned.

Training: Following the selection procedure as outlined above, the potential foremen are then enrolled in a special training program as soon as practicable. This

training program is handled on a group basis rather than for a few potentials. In addition to the formal training, the potential foremen are given a series of work assignments throughout the plants in order to afford them the opportunity to work on many different operations and under a number of different supervisors. This is designed to afford the potential foreman the opportunity to get a variety of work experiences and to provide the management with a further opportunity to study and evaluate them.

In the formal phase of this training the trainees are exposed to various subjects relating to the organization and operation of the Frigidaire Division including History of the Division, study of Standard Practice and Procedure, Time Study, Job Analysis, Union Contracts, the functions of the various line and staff divisions of the Division, and Job Instruction Training, orientated toward giving the trainee some knowledge of the methods of teaching. This phase of instruction is covered in about forty hours, over a period of several months.

The second phase of instruction, that of work assignments as noted above, is conducted in the 'home' department of the prospective foreman, with as much as one week added in allied departments in order to familiarize the trainee with the over-all picture of production and management. Both phases of training are conducted on Company time, and at

Company expense.

In summation then, the selection of foremen is based on the following factors:

1. Employment and Work record
2. Test performance (profile)
3. Supervisory recommendation
4. Training school performance

Of these four factors, members of management consulted by the writer indicated that the supervisory recommendation in placing a man on the potential foreman list was probably the most important phase of the selection process, with testing as an aid, second. It should be noted again that there has not been a sufficiently thorough study of the validity of the tests to make any definite statement as to whether they are predictive in themselves, or as to whether they are really testing any potential along the lines of leadership and supervisory ability. The statement that the test might be serving the function of raising the original recommendation criterion rather than predicting is one worthy of special note.

The National Cash Register Company

The National Cash Register Company manufactures office machinery, cash registers, and other mechanical accounting devices. The main offices of the Company, including the

factory are located in Dayton, Ohio. Although there are foreign branches, the Company maintains only one factory and headquarters in this country. At the factory and headquarters in Dayton are employed eleven thousand seven hundred persons of whom approximately six thousand five hundred are engaged in the manufacturing and supervision of manufacturing phase. Of this group there are approximately two hundred and thirty foremen. It is with the manufacturing group and their foremen that this discussion will deal. The Company operates as a line organization, with the head of the manufacturing division being the vice-president in charge of manufacturing. This vice-president is assisted in his duties by departmental supervisors, foremen, and job foremen. Promotion to any of these positions is generally from within the organization, and generally from within the department wherein the vacancy may exist, although studies are currently being conducted by the management to provide for a broader training of personnel so that in the future promotion may be made across departmental lines.

The title, and position, of job foreman is generally one of temporary nature. Job foremen are selected to supervise in those areas where there is a continuous shift of workers around the clock and there will normally be three or four job foremen all supervising the same work throughout different shifts of the day and night. However, the

selection procedure used in the selection of job foremen is identical with the selection procedure used in the selection of foremen and since officials of this organization discussed the selection procedures with the writer in terms of the foreman, this discussion will concern itself only with the selection of foremen as such. While there were no absolute figures available, the promotion rate to the foreman level within this organization was estimated to range from thirty to forty promotions per year. For the purpose of providing incentive to those persons interested in advancement, and in the course of good management practice, the Education-Training Department has drawn up a series of charts which represent an effort to forecast future vacancies at the foreman level that will have to be filled over a period of the next few years, and it is on the basis of this forecast that the estimate noted above has been made. This number will vary, depending on such circumstances as war-time expansion, unpredictable items such as death, involuntary retirements and other unusual or non-predictive separations from the organization. This flow of promotion information is also used by the Education-Training Department in the planning and scheduling of the training program.

An Educational-Training Department is established within the organization as a part of and under the supervision

of the Industrial Relations organization. This Department serves in a staff capacity in furthering the selection, training, and testing of all personnel in the organization. The selection, and testing applies not only to those entering the organization, but also with respect to promotion of those persons currently employed by the organization. This Department is further charged with surveying the training needs of the organization as a whole, participating in the organization of, and conducting training courses, constructing, administering and validating tests, and in general advising the line supervision on all matters pertaining to training and education of the employees. In the furtherance of this effort, the Company has employed the consulting services of the Industrial Relations Methods Incorporation, of New York City, a consulting industrial psychologists' organization to assist the Education-Training Department in the more technical phases of its work.

Employment Records: Applicants for employment at the National Cash Register Company are first screened through an employment interview, following which the men considered probable material for employment are given an application blank to complete. This blank is standard in its form with respect to other such forms, that is, it contains space for such information as age, marital status, dependents and

so forth. After filling out this form, the potential employee is taken to the Training Department where he is given a comprehensive battery of tests. These tests are scored, and a profile is made out for the man. If the test results indicate that the man can satisfactorily fill the job for which he is applying, he will be called at such time as a vacancy exists. After interview and approval by the foreman of the department concerned, the man will be hired. If the tests indicate that the applicant's potentiality lie in another direction, he will be so informed and encouraged to apply for a job within that area either with this organization or elsewhere. In the case of those hired the Company has compiled a rather extensive record on the man before any further selection question comes up.

Testing: The Company has available a battery of thirty-two tests covering eleven fields for use in assisting in the original employment selection and later promotion selection. It is not the purpose of this paper to make a detailed study of these tests, however, the general areas will be covered briefly, giving a short description, offered by the Education-Training Department, of the purposes and uses of the tests.

Area I - Intelligence: Three tests, two especially constructed for the Company, the third, the Wunderlic General Intelligence test. These provide a long test, a 'short' test,

and a test for those with language difficulties.

Area II - Mechanical Ability: Eight tests, ranging from tests for trainees and apprentices to tests for skilled and semi-skilled workers, including one test to separate bluffers, limited experience and semi-experienced employees. Seven of these tests are tailored for the Company, the eighth is the O'Rourke Mechanical Comprehension test.

Area III - Mathematical Ability: Two tests, both tailored for the Company.

Area IV - Manual Abilities: Five tests, two based on the O'Connor Dexterity tests revised for the National Cash Register Company, and the other three tailored for the Company.

Area V - Personality Traits: Four tests, the Bernreuter, and the three-phase Guilford-Martin test. The Company uses these tests for vocational guidance, and in the selection process.

Area VI - Interests: Three tests, the Michigan Vocabulary, and the Strong Interest Blank (men and women). These tests are reported to have value in classification, reassignment and upgrading of employees, applicants and apprentices who would benefit by vocational guidance.

Area VII - Office Work Abilities: Two tests, one a paper and pencil test, and one a performance test for various abilities in typewriting. Both tests are tailored for the Company.

Area VIII - Technical Abilities: One test, a tailored test designed to measure a combination of abilities required for complex thinking and judgment in technical or laboratory responsibility.

Area IX - Machine Operating Abilities: Two tests. Both tailored to the Company needs, and designed to measure ability to co-ordinate.

Area X - Supervisory Ability: One test. A tailored test designed to measure understanding of fundamental principles affecting relations with people that are important in daily supervision of employees. The Company considers that this test has broad usefulness with all levels of supervision and that it may be especially helpful in upgrading, determining training needs and in planning a personal development program for the supervisory personnel.

Area XI - Ability to Work on Repetitive Operations: One test. Tailored to the needs of the Company, reported to measure the ability to work continuously with adequate speed and accuracy on standard and repetitive operations.

As many of these tests as are considered applicable for the type of employment the applicant is seeking are administered at the first encounter. If the applicant so desires, he may take the whole range of tests, and benefit himself of counselling advice on the basis of the results. As a matter of actual practice, many of the older employees (the testing program was put into full effect in 1946)

voluntarily seek the testing and counselling service in order to change jobs within the organization. As a result of these tests, a test profile is made out and this profile becomes part of the service record of the employee.

In addition to the actual tests, the training department test supervisors complete a form known as "Remarks on Performance During Tests" which is a form designed to give some idea as to the individuals personal traits and includes the following five items:

1. Physical Condition: Strong, Alert, Overweight, etc.
2. General Manner: Pleasant, Unresponsive, Shy, etc.
3. Response to Instructions: Listens carefully, Impatient, Restless, Forgets, etc.
4. Persistence: Sticks to the job, Easily discouraged, Tries very hard, etc.
5. Work Habits During Tests: Quick, Slow, Fast, Fumbles, Careless, etc.

Each of these items are graded as Low, Below Average, Average, Good, or High, and the descriptive items listed above after each major point are only part of the total items given.

Finally the test supervisor makes a recommendation under one of the following items:

- Desirable
- Fair
- Benefit by special training
- Consider further
- Doubtful
- Consider for other work
- Most suitable for present job

This form is also made a part of the test and service record of the employee.

Selection and Training: Selection of foremen or job foremen is made from a previously established pool of 'eligible' candidates for the foreman rating. Candidates qualify for placement in this pool in the following manner. Any employee may be recommended to the Education-Training Department as a candidate for foreman training by his foreman or supervisor. Upon such recommendation, the candidates are called in to the Education-Training Department where their test scores are reviewed, and they are tested in areas that have not been covered, or re-tested if the man's experience and other factors seem to warrant such a step. Test profiles are studied, and the training department advises the manufacturing department concerned as to the advisability of continuing training for foremanship in each individual case as the situation seems to warrant. Normally most men so recommended have shown sufficiently high test profiles as to be acceptable for further training. If, however, the tests indicate that there is not sufficient adaptability, aptitude, or ability for the prospective foreman job, the department is so informed, and the supervisor makes a final decision as to whether or not the man shall receive further training along those lines.

As a second method of making training available, any man in the organization may apply directly to the Education-Training Department for foremanship training. In such cases the man is tested and if he meets the considered minimum requirements he will then be allowed to join other prospective trainees. This provision is included in the program for the obvious purpose of discouraging foremen or supervisors from trying to keep good men 'under cover.' In addition to this testing of each prospective trainee by the Training Department, the foreman under whom he currently works is required to make out an evaluation form on the man. This form is designed by the Company and is an attempt to provide a somewhat objective evaluation sheet for each man.

The form covers seventeen items, with a point scale ranging from one to ten, and so scaled that the lowest number, number one, represents the lowest ten per cent of the Company's employees, two and three representing the next twenty per cent, four, five, six, and seven representing the middle forty per cent, eight and nine the next twenty per cent, and ten representing the highest ten per cent. Thus the Company has a normal distribution curve based on study of the averages for personnel within the organization, and not a normal distribution of individuals at large. Adjectives and phrases are placed in each percentile column in order to guide the marker in his thinking.

The seventeen items covered in the form follow:

Technical knowledge, experience and training
Ability to get things done
Power to analyse, judgment of relative values
Ability to plan and organize
Ability to make decisions
Forcefulness, energy and perseverance
Knowledge of National Cash Register methods and processes
Tact and self control
Ability to get along with people
Integrity, fairness and sincerity
Ability to inspire, teach and develop men
Ability to cooperate and secure cooperation
Open-mindedness
Health
Personal appearance, habits and manners
Ability to assume responsibility
Initiative and resourcefulness

At intervals, groups of previously selected personnel are then organized into a class for prospective foremen, and are put through a special series of lectures, discussions, and demonstrations of subjects considered by the Company to be necessary for the successful foreman. These subjects cover areas in Leadership, Selection of Personnel, Company Operation, Evaluation, and Supervision. This school is conducted on Company time, and the trainees are warned in advance that the successful completion of such a course does not automatically make them a foreman, but merely makes them eligible for consideration and possible selection, as the need for foremen arises. The performance of each trainee in this course of instruction is evaluated by the instructors, and by the Education-Training Department, but to date there have been no detailed checks on performance after promotion

to determine the effectiveness of the course of study in specific cases or in a statistical manner. Such studies have been made on the tests administered for production and accuracy on certain jobs but this project has not as yet been extended to the leadership and selection field.

Summary: The results of this survey of the National Cash Register Company indicate that at the present time this Company is making use of three devices to assist in the selection of supervisory personnel. They are, the test; the individual evaluation, as represented by the foreman's evaluation form, and the test performance evaluation form; and group evaluation. In the final analysis, the selection of the new foremen is a matter of agreement between the supervisor of the department concerned, a representative of the Industrial Relations Department, and the vice-president in charge of manufacturing. That a vice-president should be able to offer such aid and advice in this type of selection is a result of the fact that there is only one plant, and it is possible for this officer to be able to know something about each prospective foreman through personal contact and experience with him.

Of the three aids used in the selection of personnel for promotion, the following estimates of percentages were given the writer as a basis of final selection: Opinion of the supervisor 50 per cent; factual information about the

man and information from evaluation sheets 25 per cent; test information 25 per cent. However, the executives concerned with the problem of selection indicated that they felt that with further validation studies of the tests currently in use, and with improved tests and testing techniques, the predictive value of such tests could be improved considerably. As this is accomplished, test results will play a larger part in the final selection of personnel for promotion.

The Armco Steel Corporation

The Armco Steel Corporation, since its founding as the American Rolling Mills Company, in Middletown, Ohio in 1900, has grown to an organization which currently employs about 30,000 people in nine steel plants and forty-eight steel fabrication plants in the United States and Canada. Linked with this are two wholly owned subsidiaries, and an international chain of plants and warehouses in practically every country in the world where steel is used. The Corporation maintains main offices for all its operations in Middletown. Also located there are: a fabricating division, manufacturing welded pipe, steel panels, guardrail, steel plates and associated products; a steel producing plant, the largest in the Corporation, producing a wide variety of steel products including cold rolled sheets and coils, enameling iron, stainless steel sheets and a steel sheet coated with zinc.

An integral part of this operation includes eleven open hearths, two electric furnaces and hot and cold rolling mills. The annual production capacity at Middletown, after completion of present construction, will be more than one and one-half million tons of steel. Other plants are located at Zanesville, Ohio, where electrical steels are produced; Ashland, Kentucky, the site of a continuous rolling mill; Butler, Pennsylvania, producing special purpose steels; Hamilton, Ohio, the site of two of the Corporation's blast furnaces; Baltimore, Maryland, producing stainless steel; and other plants located throughout the middle west and southwest.

Of the 30,000 persons employed, there are about 27,000 actually employed in the production or manufacturing operations. Of this group there are about 1,300 foremen. The promotion rate to foreman has been estimated at from 50 to 100 per year.⁵

The manufacturing operations, with which this study is concerned, are organized on a line basis, under the direction of a vice-president in charge of operations. Reporting to the vice-president are works managers, who have charge of the local administration and plant management of each

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According to Mr. J. H. Ayres, Personnel Relations Staff, Armco Steel Corporation, Middletown, Ohio.

plant in the Corporation. The works manager is assisted by a general superintendent, who is the actual operating supervisor of the plant. Under the general superintendent may be a number of department superintendents each having charge of a department, which is usually determined, or set up, on a process basis as far as the manufacturing of the product is concerned. The department superintendent is assisted by the general foreman. The number of employees under the general foreman will vary widely, with an average of around 200 persons. Under the general foreman, and at the lowest level of supervision, is the foreman. This position is also based on process operations and this man may have a varying number of workers under him as the conditions of the production process warrant or demand. There is, in addition to the foreman, one other management classification, the turn foreman, who is employed in those operations where the production is on a 24 hour basis. However, the turn foreman is merely a name for a shift foreman, who has the same position as other foremen working on daily basis, and therefore will be omitted from this discussion of selection and promotion of personnel to the foreman level.

The actual promotion of a man is a line function, and as such is done by the superintendent of the department concerned although across department and across plant promotion is possible and occasionally effected. However, there is

established within the Corporation, on a staff basis, under a vice-president in charge of Personal and Public Relations, a Personnel Relations staff, whose responsibility it is to assist and advise on selection and promotion as well as to perform other functions such as the supervision of health, safety, insurance, retirement, and other employee programs. The officer currently heading this organization at Armco has long been known for his interest in, and promotion of, the work in the field of selection and promotion in industry. The staff uses the services of industrial psychologists, one in the main office at Middletown, and others in the separated plants. While training, selection systems, and policy are controlled by the main office as a matter of Corporation policy, there are training advisors and employment advisors at each plant, and the function of training and selection is a continuing process throughout the organization.

Records: The Corporation maintains an employee's personal record which is started with the application for employment and contains employment information, grievances filed, absenteeism, his test scores and other day to day data. This form, in general, is in conformity with like forms used by most industrial organizations. In addition, there is kept a Record of Personal Qualifications and an Individual Inquiry Form, both of which will be discussed in detail in the section on selection.

Testing: The Corporation conducts a continuous testing program, both for research and for use in selection of personnel, so that at the present time (1951) the majority of all employees have been tested. Testing is now a part of the standard employment procedure. The tests currently used include the Bernreuter Personality Inventory test, the Bennett and Fry Mechanical Computation test, and the Otis Alpha Verbal Intelligence test. The test results become a part of the employee's personal record.

Training: The Corporation conducts no training program for potential foremen as such. Training programs for skills and related subjects are conducted as a matter of routine, but the expressed opinion of the Corporation officials was to the effect that it was considered that the promotion of those qualities that make up a good foreman could best be done in the plant under a work situation by the foremen and other immediate supervisors. After the foremen are selected they are brought in to the main office for a week long indoctrination course on Corporation policy and related operations. This session is conducted by the Training Department using the services of executives and others involved in management and operations.

Selection: In making the final selection for promotion, the superintendent is aided by the use of a

conference, where he, in conjunction with the works manager, assistant works manager, employment advisor, and training advisor meet as a group to discuss the capabilities of those under consideration.

Since all promotions are made from within the organization, a system of seniority has been set up, which takes into consideration three factors; time with the Corporation, condition of health, and intelligence. The seniority established is not recorded, nor is it a figure that can be tabulated, but is the result of such conferences as noted above.

The Record of Personal Qualifications is a complete and detailed guide for judgment, and for that reason, and because it speaks for itself better than a description, it has been included herein in its entirety with the exception that certain descriptive items under headings I through XIX have been omitted when their inclusion would not add materially to the overall purpose of this study.

Record of Personal Qualifications:

The Record of Personal Qualifications has been developed as a check list or score card in order to assure the careful review of an individual's qualifications for whatever position he is being considered. In so far as possible, the grading of the individual on the Record of Personal Qualifications is based on factual information. However, of necessity, certain opinions must be expressed. Where that is necessary it is suggested that those who are familiar with the candidate's performance at work and sufficiently well acquainted with him to have a definite knowledge of his activities, abilities, and attitudes be used as the sources of information. This can best be done in a discussion of the candidate with

the Superintendent, the Works Manager, Assistant Works Manager, Employment Advisor, and Training Advisor as a group.

Where this grading of the individual can be done by a group, it is suggested that one of the group, preferably the Employment Advisor, be made responsible for recording the information and conclusions on the Record of Personal Qualifications Form and make whatever other investigation is necessary before the grading is completed.

Given below is a brief explanation of the qualifications as set up on the Record of Personal Qualifications Form, and the sources of information which are to be used as the basis of the grading. The items follow the same order as the Record of Personal Qualifications Form.

I Health....

II Emotional Stability. (a) Personality Inventory Results. The candidate should have a satisfactory score on the neurotic tendency scale. See Footnote.

(b) Supervisory Rating. Care should be exercised to avoid generalizing on one incident or personal dislike. He should be considered on the basis of his performance under trying situations and over an extended period.

III Confidence. (a) Personality Inventory Results. He should have a satisfactory score on the self-confidence scale. See Footnote.

(b) Supervisory Rating. He should have performed in such a way as to indicate sufficient self-confidence without having been arrogant or irritating. Care should be taken to avoid generalizing on one incident or a personal dislike.

IV Leadership Qualities. (a) Personality Inventory Results. He should have a satisfactory score on the scale denoting dominance in face to face situations. See Footnote.

(b) Supervisory Rating. He should have shown evidence of leadership in past performance. He should have been able to hold his own in his daily contacts with his fellow men and have shown some evidence of a persuasive ability in handling problems or in discussions with members of his group.

- V Intelligence Quotient. He should be in the upper normal or superior group as determined from the mental test. This simply requires a recording from his test result.
- VI Mechanical Comprehension. He should have a raw score on the Mechanical Comprehension Test of at least 40 or higher.
- VII Ability to do the Mechanical Part of the Job....
- VIII Arithmetic Comprehension....
- IX Safety. (a) Accident Record. His accident record, as an individual, should be satisfactory at least to the extent that he may not be considered as accident prone or careless as an individual.
(b) Attitude Toward Safety. The candidate should be interviewed on the subject of safety in order to determine that he possesses a sincere interest and belief in the company's safety program and fully recognizes the losses to the company and to the employees when accidents occur.
- X Production Record....
- XI Training Record. It should be determined from his record that he has demonstrated an interest in and accomplished certain training objectives as an individual. This should be factual information available from the record card and from the records of the Training Department.
- XII Financial Credit....
- XIII Personal Habits-Character. The candidate's personal habits, morals, attitudes toward his family, the Church, schools and society should be carefully determined. Care should be taken not to determine that personal habits are satisfactory because of no current knowledge of improper habits.
- XIV Loyalty to Armco. By interview of the candidate and investigation of those whom he knows, it should be determined that he believes in the policies, ideals and objectives of the company and is eager to discuss Armco with his associates. The group who review his qualifications should discuss his attitude toward the company as displayed in former assignments.

XV Friendship. It should be determined whether he is well liked by his associates and whether he has their respect.

XVI Business Courage. It should be determined that he possesses strong personal ideals and convictions to such a degree that he would argue against decisions with which he could not agree and which he did not consider to be fair. He should be willing to take a position at the sacrifice of personal popularity if such is necessary to avoid an unfair and unreasonable conclusion.

XVII Tact. It should be determined that in the company's experience with the candidate he has shown a tendency to say and do the right thing at the right time in his dealings with other people. This characteristic will more likely be found in an individual who will think before speaking and who can consider the effect of his words before they are spoken.

XVIII Handwriting....(Not used for character estimate.)

XIX Armco Foreman's Test....(This test is no longer given.)

Footnote: II - Emotional Stability, (a); III - Confidence, (a); and IV - Leadership Qualities, (a). It is suggested that all three of these qualities be considered at the same time because in so doing the personality pattern of the individual may be considered rather than the item. For instance, if the individual were definitely stable emotionally and possessed considerable confidence, we could be more tolerant of a less satisfactory individual result on the dominance-submission scale than if the reverse were true.⁶

Included with this record are grading sheets which list each item by its number, providing space for test grades where such is indicated. The grading system used is 'Satisfactory, Doubtful, and Unsatisfactory.'

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Armco Steel Corporation, Record of Personal Qualification.

In addition to the Record of Personal Qualifications, the Individual Inquiry Form is filled out by the supervisor of the man being considered for selection to the foreman level, and is used in the conference to add to the information already available. This form contains questions covering eleven areas for the supervisor to answer. The answers are to be in the form of 'Yes, No, Don't Know,' and the areas covered, with samples of the questions asked follow:

Leadership:

Does he take the lead fairly often when in a group?
Does he avoid open clashes in conversation?...

Physical Health:

Does he take good care of himself?...

Mental Health:

Does he seem to be confident of his ability?
Is he relatively free from moodiness?...

Usable Education:

Does he seem to have good general information?
Is he able to apply a definite rule in a specific situation?...

Reliability:

Can you rely on what he tells you?
Does he admit his own mistakes?...

Team Work:

Does he cooperate well?
Is he interested in increasing output?...

Habits:

Do you consider his personal behavior satisfactory?...

Thoroughness:

Does he concentrate on his work?
Does he follow instructions?...

Social Adjustment:

Does he make friends easily?

Does he withdraw tactfully from discussions before they become too heated?...

Use of Mental Capacity:

Does he grasp new information quickly?...

Work Record:

Does he do satisfactory work from standpoint of quality?...⁷

The form provides space for further questions and amplification of the following items:

Is he qualified for the next step-up?

Has he potential to eventually go to top of job progression?

Is there a logical place to which to advance?

Has he expressed a desire for another type of work?

Training needed for future advancement.

Summary of interview.⁸

This form is also filled out for all salaried personnel, and serves as a check on performance and selection procedures, although no statistical studies have been made to validate the use of this material.

Summary: It is apparent that this company is making an effort to establish a list, or grouping, of certain traits considered necessary for men in management and to measure the extent of each trait in the individual up for selection. This is done through the use of the tests mentioned, and through the conference and observation method, with perhaps an idea

⁷Armco Steel Corporation, Individual Inquiry Form.

⁸Ibid.

that in the future there will be even more emphasis on the measurement, through actual observation of the employee on the job and everyday routine work.

The expressed goal of management in the Corporation is a constant endeavor to impress upon its selecting personnel the importance of having a set criterion for measurement, and in the use of factual information in arriving at a conclusion as to the potential worth of the employee from a supervisory standpoint.

Conclusions: As stated in Chapter I, it has been the purpose of the sampling of industrial techniques to endeavor to discover a trend throughout Industry, or to discover individual systems that might be applicable to the selection problems of the Navy. Further, as was previously stated, the sampling included in this chapter does not represent all the organizations surveyed by the writer, but it was found that there was a definite distinction within Industry between two types; (1) those organizations that appear in this sampling, characterized by their size, which permits a well organized staff set up for the purpose of evaluating and facilitating the orderly and systematic selection and advancement of personnel, and (2) other, usually smaller organizations whose personnel policies offered no systematic plan for the selection of personnel to the supervisory positions. In the latter case, almost all the executives

talked to by the writer expressed knowledge of the existence of the problem. For various reasons however, little was being done to solve it.

On the basis of the sampling done it seems reasonable to draw the following conclusions:

1. With industrial organizations which recognize the selection problem and are taking positive steps toward its solution selection for promotion procedure seems to center around four basic techniques: (a) The use of tests in varying degrees; (b) the use of rating forms, with considerable variance in their scope with reference to length, inclusiveness and objectivity; (c) the use of individual judgment in the subjective evaluation of certain non-definable traits considered to be important; (d) the use of pooled judgments, with or without the assistance of objective types of rating forms in the evaluation of leadership potential.

2. To date little scientific effort has been made to validate the results of the use of any of the aforementioned systems with respect to the criteria, the actual performance of the selected men when they become foremen.

CHAPTER III

THE NAVY SYSTEM FOR PROMOTION TO PETTY OFFICER

Definitions: Like industrial organizations, the Navy

post-war rating structure is designed to meet the needs of the individual organization which it serves. Towards the accomplishment of this end, there has been a growth of a terminology or language within the Navy specifically defined to make clear the meaning of the various orders, directives, and instructions. Definitions of some of these terms, as used herein, follow:

RATE: A RATE identifies personnel occupationally by pay grade. Within a rating, a rate reflects levels of aptitude, training, experience, knowledge, skill, and responsibility. Thus, the rating of a boatswain's mate is reducible to the rates of chief boatswain's mate; boatswain's mate first class; boatswain's mate second class, and boatswain's mate third class. In addition, pay grades 5, 6, and 7, such as airman, construction apprentice, and seaman recruit, are rates.

RATING: A RATING is a name given to an occupation which requires, basically, related aptitudes, training, experience, knowledge, and skills. Thus, the rating of yeoman comprises clerical and verbal aptitudes, filing, typing, and stenographic skills, a knowledge of correspondence, and reporting forms, and procedures, etc. For pay purposes, the yeoman rating is composed of the four pay grades: Chief yeoman; yeoman, first class; yeoman second class; and yeoman, third class. Personnel in pay grades 5, 6, and 7 are not to be considered as possessing ratings, since the occupational content is either too broad in scope or too limited in technical content and responsibility.

A GENERAL SERVICE RATING is a peacetime occupation which encompasses a broad and comprehensive occupational area. In peacetime, this is the rating held by

personnel on active duty in the regular Navy. During a period of national emergency and at a time to be determined, personnel in a general service rating will be changed to an appropriate emergency service rating...

An EMERGENCY SERVICE RATING covers an occupational area narrower than that of the general service rating and constitutes a subdivision into which personnel of the general service rating will be channelled in time of national emergency. An emergency service rating permits more specialization than the general service rating and is designed to make use of civilian skills and occupations with a minimum of training. Enlistments directly into these ratings will be made in time of national emergency. Following demobilization, personnel holding these ratings who wish to remain on active duty in the regular Navy will be required to qualify in the related general service rating embracing the emergency service rating they held during the period of emergency.¹

General Rate Structure: The present Navy system for

the advancement of enlisted personnel is based on a structure which was placed in effect throughout the Naval Service on April 2, 1948 as a result of war-time experience. Basically this structure can be divided into two separate channels of advancement. That section designed for the so-called regular Navy, or peacetime organization, and the emergency, or expansion ratings of war-time where involuntary service is the rule. The fundamental difference between these two channels is in the scope of the two structures. The war-time structure is much more complex and more specific in the descriptions of the rates and skills. This paper however,

¹ Bureau of Naval Personnel, Manual for Qualifications for Advancement in Rating, Navpers 16068, GPO, Washington, D. C., p. iii.

will concern itself only with the so-called peacetime structure, the general service ratings.

This structure provides for a normal path of advancement of the enlisted recruit through one of seven general apprenticeships. These are; seaman, fireman, constructionman, airman, hospitalman, dentalman, and stewardsman. The general apprenticeships are designed to point the trainee towards twelve different occupational groups covering the following areas: Ordnance, Deck, Electronics, Precision Equipment, Administrative and Clerical, Miscellaneous, Engineering and Hull, Construction, Aviation, Medical, Dental, and Steward. These occupational groups lead directly to a specialized job field, of which there are sixty-two in number. The advancement from seaman, fireman or other apprenticeship into one of the job fields represents the first advancement to a rated status, that of third class petty officer. For convenience, pay grades are often used in describing these rates. The third class petty officer has a pay grade rating of E-4, and subsequent advancement is made through pay grade E-5 (second class petty officer), E-6 (first class petty officer), and E-7 (chief petty officer). All pay grade advancements are made in a specific job field, and shift from one job field to another is not authorized nor anticipated except in unusual individual circumstances where it can be clearly shown that a horizontal shift is in the best interests of the service as a whole. Such shifts

can be made only upon authorization in each case by the Chief of the Bureau of Naval Personnel.

The Examining Boards: There are two examining boards used in the administration of promotion and in the evaluation of candidates. The Supervisory Board is a board of three or more officers officially appointed to administer the written examinations sent out by the Naval Examining Center, and these boards may convene for the purpose of administering examinations to all ships in an area, to a group of ships of the same type, to personnel at established bases and stations, or to a combination of any of the above. The board's position is entirely supervisory, and as such the board is convened only for the purpose of administering the examinations. The Examining Board consists of three officers within an individual command organization, and several of such boards may be in existence at one time. The senior member of this type of board is usually the executive officer or some other officer high in the chain of command, and the two other officers are usually members of the individual department within the command organization of which the individual candidate for promotion is a member. This accounts for the multiplicity of boards within one command. It is the duty of this board to examine and certify to the correctness of all factors other than the written examinations. The members of this board may evaluate leadership potential and

interview the candidate if they so desire.

Service Wide Written Examinations: The advancement to all petty officer rates in the Navy is based on two service wide written examinations, one competitive and one non-competitive. This policy has resulted in the organizing and establishing of the Naval Examining Center, now at Great Lakes, Illinois. The first service wide examinations for advancement to petty officer rates of first, second, and third class were given in July 1950. The present system of single, service wide examinations for advancement to each of the petty officer rates in specific job fields places all candidates at each level on an equal basis. For example, a seaman stationed with the Naval Forces, Europe, who wishes to qualify for advancement to petty officer third class in the specific job field of radarman will take an identical examination on the same date as another seaman striking for the same rate in Pearl Harbor, or Japan.

Preparation of service wide examinations is done by the Naval Examining Center, and these examinations are sent out to the individual commands to administer. The examinations are then returned to the Examining Center where they are graded. The content of the competitive examination is based on the qualifications prescribed for each specific rate as listed in the Bureau of Naval Personnel Manual of Qualifications for Advancement in Rating. Specific content

will be discussed later in this chapter under consideration of selective criteria.

In addition to the competitive examination, there is required a written examination in the Military Requirements for all enlisted personnel in the Navy. Satisfactory completion of this examination is required in every instance of advancement in rate or rating, regardless of the occupational group or job field of the candidate. General Factors covered in this type of examination include the subjects of Leadership, General Information Concerning the Navy, Military Etiquette, Seamanship, Training and Selection, and others. There is no relative merit standing recorded in connection with this examination. It is simply a matter of pass or fail. The two examinations are administered jointly and are both forwarded to the Naval Examining Center for grading. The average promotion examination consists of approximately one hundred objective type questions in the professional phase, and one hundred and twenty of the same type of questions in the examination covering the military factors. In this second examination between eight and ten of the questions contained therein are designed to relate to the subject of leadership.

Other Requirements for Advancement: In addition to the written examinations there are other qualification factors which are considered and entered on the record.

Normally these factors are considered and made a matter of record before the man's name is submitted as qualified to take the professional and military examinations. These factors include:

(a) Service requirements; The sailor is required to have spent a definite period of time in his present pay grade before he may be advanced. This period of time will vary with each pay grade, the higher pay grades requiring a longer length of service in that grade. The time in each pay grade is roughly figured on the basis of the minimum length of time that is considered necessary to enable a man to become fully qualified in experience in that particular grade, and further to become qualified for advancement to the next grade. This time may, however, be varied depending upon the needs of the service, the number of vacancies in the next higher pay grade, and the state of mobilization and finance of the service as a whole. Generally the length of service in peacetime is much longer than is required in wartime, but this should not be interpreted as necessarily lowering the standards, as the experience rate in wartime is much higher than in peacetime. In addition, in the higher pay grades there may frequently be specific minimum requirements with respect to the amount of 'sea duty,' or time attached to a commissioned ship or other activity which has been officially designated as sea duty.

(b) Performance marks: All enlisted personnel are assigned performance marks quarterly. These marks are, within limits, intended to reflect the performance of duty of the man concerned. The assignment of marks is the responsibility of the division officer aided by his head of department. These marks are usually assigned after consultation with the man's responsible superior petty officers, warrant officers and others who have had a chance to observe him in action. All marks are subject to the approval of the executive officer, and in addition the executive officer assigns a conduct mark. Marks are assigned on the following items.

1. Proficiency in rate: The summation of the various elements that go to make up the service character of an enlisted person. The mark for proficiency in rate is not the average of the other marks for the same or for previous periods but depends upon them insofar as the particular rate requires reliability. In determining marks, therefore, it shall be borne in mind that the mark for proficiency in rate is intended to be sufficient in itself to denote a person's ability, habits and character; in short, the individual's value to the service in the particular rate.²

2. Seamanship.

3. Mechanical ability.

4. Leadership: This mark is required for all personnel except those in pay grade 3 (seaman) and below. This mark may be entered in the case of men in pay grade 3 or below when considered appropriate.

5. Conduct: This mark is required for all personnel in the enlisted ratings and pay grades. The Navy marking

²Bureau of Naval Personnel, Bureau of Naval Personnel Manual, Washington, D. C. GPO, p. 181.

system is based on a decimal system, with 4.0 denoting perfect performance. A mark of 2.5 is considered as a minimum satisfactory mark. In the case of conduct marks, no mark other than 4.0 can be given a man without a substantiating record of an offense noted in the service record of the man concerned. Offenses calling for a reduction in the conduct mark also call, by Bureau of Naval Personnel directive, for a reduction in proficiency in rate mark.³ Of these five marks however, only those in proficiency in rate and conduct appear on the Report of Examination for Advancement or Change in Rate or Rating, and those marks are for use only in determining minimum required marks and averages, and play no part in the computation of the multiple which determines the man's standing on the advancement lists.

(c) Training courses: Navy training courses are published by the Bureau of Naval Personnel Training Activity, and are of three general types. Rating courses containing subject matter based on knowledge and skills required for advancement in specific ratings; subject area courses containing matter based on the knowledge and skills which are used in more than one rating such as 'Use of Blueprints' (Navpers 10621); and a General Training Course for Petty

³ Bureau of Naval Personnel, op. cit., p. 184.

Officers, Part 1, a training course devoted to the principles of leadership, supervision and training. All these courses are in the form of self study manuals and include textual information, illustrations and diagrams, and objective type examinations on each phase of the course which are taken by the student as a self-help device. Overall supervision of the study of these courses is the responsibility of the division officer and the training officer in the command. For advancement, the man must have completed the requisite course in the rating and at the level to which he desires to advance. The study and completion of the General Training Course for Petty Officers is a requirement for advancement to all third class ratings. Where no training course currently exists, a result of changing times, needs and equipment, for a particular rate, there is no requirement in lieu of a Navy training course. In these cases, the Bureau of Naval Personnel considers it highly desirable for the candidate for promotion to have completed a course in that field through the Armed Forces Institute or some other agency offering information of the subject matter. This material may frequently be obtained from a manufacturer or by attendance at a manufacturer's school.

(d) Practical factors: Practical factors are defined as "...those qualifications which are best determined by observation of the candidate in situations that require a

demonstration of his knowledge, skill, and ability under actual or simulated working conditions."⁴ As with other qualification requirements, the practical factors are divided into two sub-categories, professional requirements, and military requirements. This method of examination through either formal or informal observation by the division officer and other seniors is designed to insure each man opportunities to demonstrate practical ability in his occupational group or job field. These practical factors are not competitive and there is no mark assigned, and a man's relative standing in such performance does not have any bearing on his final position on the advancement eligibility lists.

There is a distinction between military characteristics and professional characteristics in regard to practical factors, in that the military requirements must be completed for all rates. Qualification in such practical factors includes demonstration of performance in leadership, division duties, training, infantry drill sentry duty, calls and signals, small arms, and other items. Professional practical factors are concerned with the tools, weapons, skills and equipment of the rating involved. The certification of qualification and satisfactory completion of practical

⁴Bureau of Naval Personnel, Manual for Qualifications for Advancement in Rating, Washington, D. C. GPO, p. 14.

factors is covered in a general over-all qualification statement on the Report of Examination for Advancement forms signed by the man's commanding officer.

(e) Recommendation by the commanding officer: In addition to all the other requirements noted previously, each candidate must be recommended for advancement by his commanding officer, and with this authority of recommendation comes the power to withhold an advancement at any time up to the time that such advancement is effected by the commanding officer, after authorization by the Naval Examining Center or the Bureau of Naval Personnel. This requirement of recommendation by the commanding officer is designed to give the officers directly concerned with the man's performance the final decision as to whether the man is capable of performing the professional and military requirements of the rating which he seeks.

Advancement Procedure: Methods of effecting an advancement may vary from time to time depending upon the conditions prevailing. However, the basic advancement system is as follows:

(a) "Commanding officers are authorized to advance enlisted personnel in rating without regard to vacancies in allowance in the case of all personnel who fulfill the requirements for the rates in pay grades E-2 (seaman

apprentice) and E-3 (seaman)."⁵

(b) "Commanding officers are authorized to make advancements in rating in certain individual cases in accordance with Bureau of Naval Personnel letters to commanding officers concerning individual cases."⁶

(c) "Commanding officers are authorized to advance enlisted personnel in rating from pay grade E-3 to E-4, from pay grade E-4 to E-5, from pay grade E-5 to E-6, and from pay grade E-6 to E-7, as result of service wide competitive examinations, on specific authority of the Chief of Naval Personnel in case of advancements to pay grade E-7, and on specific authority of Officer in Charge, Naval Examining Center....in all other cases...."⁷

Thus successful completion of the qualifications outlined previously does not in itself constitute authority to advance the individual candidate to a rate or rating. The Officer in Charge, Naval Examining Center maintains the eligibility lists, and advancements are made from this list, in order of lineal position, as service-wide vacancies in that specific rate or rating become available.

The relative positions on the eligibility lists are established by multiples which are arrived at by assigning

⁵ Bureau of Naval Personnel Circular Letter 12-50 of 27, January 1950.

⁶ Bureau of Naval Personnel, Bureau of Naval Personnel Manual, Washington, D. C. GPO, p. 145, para. C-7203.

⁷ Bureau of Naval Personnel Circular Letter 12-50 of 27, January 1950.

weights to four factors as follows:

FACTORS	AS OF (DATE)	MAXIMUM
Examination Professional Subj.	Mark 3 Decimals x 20.00	80.00
Total Naval Service	Years 2 Decimals x 1.00	20.00
Service present pay grade	Years 2 Decimals x 1.00	5.00
Awards		5.00
	FINAL MULTIPLE	110.00 ⁸

The lineal position of any individual on the eligibility list indicates his relative position and prospect for advancement. Examinations for advancement to pay grades E-4, E-5, and E-6 are given semi-annually, and at such times new lists are made up. For a candidate to remain on a list he must qualify and take the new examination. He is then assigned a new lineal position as a result of the new qualification. In the case of promotion to pay grade E-7, examinations are given annually, following the same procedure as for the other pay grades.

Selective Criteria Used in the Advancement of Personnel to Petty Officer Third Class: To this point this chapter has dealt with the general system used by the Navy in making

⁸ Bureau of Naval Personnel, Report of Examination for Advancement or Change in Rate or Rating, Washington, D. C., GPO, Navpers form 624, Revised 1-50.

advancements in rate and rating throughout the service as a whole. Since it is the acknowledged purpose of this work to study the advancement procedures to the first supervisory level, the following will be focused on the petty officer third class, and a typical job field will be selected in order to trace specific applications of the advancement system at this level. For the purpose of illustration, take the rating of gunner's mate third class, the scope of whose duties need not concern the reader, but is generally concerned with the operation, maintenance and repair of small arms, guns, turrets and their associated equipment.

As all third class petty officer ratings fall within pay grade E-4, and the occupational group basic to advancement in the ordnance job field is composed of seamen, the typical petty officer candidate discussed herein will be referred to as the seaman. The following factors apply:

(a) Time in rate as seaman: Six months

(b) Sea duty: None

(c) Performance marks: (1) Proficiency in rate - no mark less than 2.5 for preceding six months and not less than 3.5 for the quarter preceding the advancement date.
(2) Conduct - no mark less than 3.0 for the preceding six months and an average of not less than 3.5 for six months preceding advancement.

(d) Service schools: None required

(e) Military practical factors: "Leadership: The ability to direct groups in simple calisthenics....Division duties: Make routine musters, prepare watch lists, and handle section or division for inspection...Training: Instruct personnel, using on-the-job training methods... Infantry Drills: Take charge of a squad in infantry drill..."⁹

(f) Professional factors: These factors include the use of tools, measuring instruments, knowledge of guns and other skill requirements related to the general field as previously noted in the scope of the rate itself.

The factors required under items (e) and (f) above are considerable in number and only those which have a bearing on the determination of leadership qualities have been listed herein, as further definition would serve no practical purpose insofar as this discussion is concerned.

The seaman candidate for advancement to the rating of gunner's mate third class must in addition satisfactorily pass the written examinations on the military and professional aspect of the job field. Military aspects pertinent to this study are as follows:

Articles for the Government of the Navy; with particular attention to the regulations concerning unauthorized

⁹ Bureau of Naval Personnel, Manual for Qualifications for Advancement in Rate or Rating, Washington, D. C., GPO, p. I -1.

absence and other common offenses, and the kinds and degrees of punishment.

Uniform regulations and care of clothing.

Station rules and regulations.

Organization in own command for handling personal problems.

Responsibility to officers and rated men in advising and assisting juniors concerning personal problems.

Educational services.

Personal hygiene.

Advancements, decorations and awards.

Military etiquette including regulations concerning salutes to the National Ensign, boat etiquette, side honors, etiquette in leaving and returning to a ship.

Training and selection including the nature, proper use and the advantages and disadvantages of methods of instruction.

Special details including the duties of a section leader, police petty officer, gangway watch, master-at-arms, guardmail petty officer, shore patrolman and beachguard.

Finally, as noted previously, our seaman must be recommended for advancement by his commanding officer, and his conduct and performance of duty must be such that the commanding officer will be willing to effect the rating when it is authorized.

Reference to the multiple computation section of the Report of Examination for Advancement or Change in Rate or Rating as outlined previously in this chapter indicates that weight is given in varying degrees to four factors, the results of the professional examination, total naval service, service in present pay grade, and awards. None of these factors have any appreciable loading in favor of the determination of leadership potential. In fact, it might prove true that the factors of total naval service and service in present pay grade have a negative loading, as greater weight is given to longer service, which in itself might indicate lack of leadership ability. So here, as in the first factor, there is no place for leadership evaluation.

The third of the subjects under scrutiny, that of subjective measurement of leadership potential as represented by the recommendation of the division officer and other officers, offers a better possibility for leadership evaluation and it is from within this field that, under the present system, such an evaluation must come. The promotion policy of the Navy lays heavy stress on the duties of the division officer and other officers and petty officers in the recommendation for promotion, based on the assumption that these personnel are in a position to evaluate actual performance and future potential. However, two other factors operate against an objective evaluation at this

level of leadership potential as criterion of selection. They are; (a) the emphasis placed on the idea that the division officer, and others at his level, are responsible for the health, welfare and happiness of their men, thereby promoting a tendency on the part of such officers to make the promotion of the man more important than an objective evaluation of his qualities in the light of the good of the service as a whole; and (b) the relative youth and inexperience of the division officer in both the field of professional skill and in personnel matters. This tends to make the division officer rely heavily on the man who can do his job professionally, and his recommendations for promotion are frequently based on this performance without due regard to the personnel problems that may be encountered when unsuitable leaders are recommended for promotion. To expect the head of department, executive or commanding officer to voluntarily play a major part in leadership evaluation under the system now in use seems impractical because of the stress of other duties, real or imagined, and because of the gap that separates these officers, especially in a large ship or unit, from the men themselves. It should be further noted that at the present time there is no objective form, evaluation sheet or other instruction provided the division officer to assist him in making an evaluation of his men. Thus it appears that while the organization relies heavily on the

recommendation of the junior officer in this matter he has been provided with almost no tools with which to work, and at the operating level, there has been little serious work done to validate such recommendations as they are made.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

In review of the information gleaned from this survey as a whole, and of the facts presented herein, it appears that there are certain basic differences between the Navy and Industry with relation to operation requirements and physical structure. Some of these differences inherent in the Naval organization, and mentioned in Chapter I were recognized at the outset. They were; permanent tenure, universal rate structure, rotation and transfer policy, career service, and command individuality. In addition, other differences now seem apparent. They are; size of the Naval organization as compared with Individual industrial organizations, greater personnel stability within industry, added experience of the supervisors in industry, and geographical considerations with respect to the far flung location of Naval personnel. It seems evident that the differences are sufficient to impose severe restrictions on the application of principles or procedures to the Navy that might be successfully used in Industry. While the sampling of industrial organizations has not been extensive, or over a wide area of the country, it appears that in the light of the sampling done, the contributions of industrial technology

are confined to four general practices in the selection of supervisory personnel. These are the use of (1) tests, (2) written forms, (3) individual judgment, and (4) pooled judgments.

On Tests: There is a wide variety of opinion on the effectiveness of the use of tests as a predictive device in the measurement of potential in the industrial or naval situation. It seems fairly well established that in some fields, especially with skills and aptitudes, a reasonably accurate prediction can be made as to the possibility of success for the persons taking the test. However, in the prediction of success as a leader, the test which offers the highest correlation between the test and leadership ability is the intelligence test, and the average correlation coefficient found as a result of thirty-two studies relating intelligence tests to leadership was only .28.¹ On the basis of this study it appears that in the prediction of success as a leader, there is to date no test which can provide any validity of significance. Stogdill further states "The qualities, characteristics, and skills required in a leader are determined to a large extent by the demands

¹ Ralph M. Stogdill, "Personal Factors Associated with Leadership: A Survey of the Literature," The Journal of Psychology, 1948, 25, p. 43.

of the situation in which he is to function as a leader."² Thus, one who might be predicted as a leader in some situations would fail in others. Other tests, such as personality tests and measures of interests may have their place in the industrial situation, but one hesitates to accept the results observed to date without further validity studies in each individual situation. As in Industry, the Navy has, and gives, an intelligence test to all recruits. The results of this test are made a part of the man's permanent record. These tests, used as a predictive device, for what they are worth, might have some merit, and this possibility will be discussed later.

Rating Forms: Although the Navy uses the fitness report for its commissioned officers, there are no rating forms currently in use for the enlisted personnel. One such form was used temporarily for chief and first class petty officers, but not for the purpose of evaluation for immediate promotion, and has since been discontinued. The use of such a form within Industry seems to be fairly general, and it is considered that a form to assist in the objective evaluation of potential could be used to advantage by the Navy.

Individual Judgment in Evaluation: In all cases the subjective evaluation by the individual could be made more

²
Loc. cit.

effective through the use of a rating form. In this respect, the industrial situation has an advantage over the Navy in that the persons making the individual judgments in Industry are older and more experienced in their professional field than is the average division officer in the Naval situation. It can be safely estimated that the average age of the division officer is around 25, and his work experience in the Navy around three or four years. Thus, generally speaking, the industrial situation provides a background of more mature evaluation of the man under consideration.

Pooled Judgments: Studies have shown that pooled judgments, viz., a composite judgment provides a greater validity than any other system of rating where the rating is done subjectively by individuals or groups.³ In the case of the Navy, the Examining Board might be required, or expected, to do this evaluation. In actual practice this is not done and might prove difficult of accomplishment because of (1) the lack of central direction and control over hundreds of widely scattered examining boards; (2) a wide range of interpretation of what is a satisfactory performance and what is satisfactory indication of leadership ability; (3) the fact that the boards are usually composed with the

³H. E. Burt, Principles of Employment Psychology (New York: Harper and Brothers, 1942), p. 384. Revised Edition.

candidate's division officer or head of department on the board, thus making for a tendency for the other members of the board to leave the whole matter up to his judgment (he recommended the man in the first place) thereby obviating the function of the board as a screening and evaluating group. With certain variations, to be discussed later, this system of pooled judgments seems to offer prospect of a step in the right direction or of a partial solution to the problem.

In discussing the matter of reviewing boards for the purpose of providing pooled judgments, with some of the executive personnel in Industry, three possible solutions were suggested to the writer. They were: 1. Establish a board of experts in the field of interviewing and screening as a special review board and have them interview all candidates. This is considered to be operationally impossible because of the number of candidates and the far flung operations. 2. The establishment of travelling review boards was suggested. The author feels that this too is not practical because of the factors stated above and because of the financial aspect and time element involved. 3. The establishment of boards on the basis of the operational type command, that is, each destroyer division, etc., have a board to review all qualified personnel before advancement. The objection to this suggestion seems to be that as in the

case of the Examining Board, the members would in all probability, defer to the officer from the ship to which the candidate was attached, and there would be, in effect, no real judgment passed.

Recommendations: As a result of this study, and in light of the practical situation as it exists in the Navy, the author sees two possible courses of action that might be practical towards the improvement of the selection and promotion procedures as applied to the petty officer ranks. These suggested courses of action are:

1. Establish a critical score at the lower level of the Navy General Classification Test (Intelligence test) similar to the cutting scores currently used on this same test in the screening of service school candidates. The establishment of such a critical score would serve to raise the general intelligence level of the third class petty officer and statistically would improve the predictive ability as far as success in the new job was concerned. The establishment of such a lower critical score has a very serious drawback in that the knowledge that one's score was below the critical point would destroy incentive on the part of the individual in that category. Therefore, it would be necessary to allow persons falling below the critical score to be re-tested at such time as they were in other respects qualified for promotion. Further, it is suggested that if

such a program were adopted, each commanding officer be given authority to waive the critical score in any case where he so desired. Notice of such waiver should be made a permanent part of the enlisted man's service record, with the signature of the officer granting the waiver attached. This waiver seems necessary in view of the low correlation between intelligence test scores and leadership and would allow for the promotion of those otherwise obviously qualified personnel whose other traits compensate for a low score in the intelligence test. The knowledge that such a waiver was possible would go a long way toward removing the stigma of a low intelligence score, making the situation seem less hopeless in the individual case. The requirement of the signed waiver would serve as bar to the indiscriminate promotion of those obviously unqualified from the leadership viewpoint.

2. It is suggested that the Navy institute the use of an evaluation form similar to that temporarily used in the evaluation of chief and first class petty officers. This form should be completed annually for all petty officers. In the case of prospective third class petty officers, such candidates should be required to appear before a board of officers. This board should be composed of the commanding officer, the executive officer, the head of his department, and his division officer, where the organization provides



for this officer in addition to the head of department. Consideration should be given to the possibility of including the candidate's chief petty officer on the board. It should be the duty of this board to interview the candidate. Members of the board should individually make out the proposed evaluation form on the basis of their own judgment. After the forms have been made out and the man dismissed, they could be compared and an average struck for each trait. This would provide for a pooled judgment on the man. The forms could very well provide for a lower critical score or profile line, below which the candidate should not score. Here again the waiver of any one or more of these requirements should be the prerogative of the commanding officer. The averaged evaluation as approved by the commanding officer should become a permanent part of the man's service record.

While it is admitted that in some cases this is going to place a burden on the commanding officer and on the executive officer, within this officer's experience, the burden is not considered to outweigh the value of the proposed plan. Such a system has the advantage of adding years of experience to the evaluation in that more senior and better qualified officers are on the board; provides for a broad understanding of the service picture as a whole instead of the individual case; and would add tremendously to the prestige value of the promotion to and acquisition of

the rating. Finally requiring the commanding officer to authenticate the composite evaluation sheet and making it a part of the man's service record would go a long way toward insuring that the function of the board did not become routine. This is true because of an aspect of the Navy which has not been previously discussed, the 'service reputation' of senior officers. By 'service reputation' is meant that as officers become more senior, usually commander and above, they acquire a reputation throughout the service based on previous performance in many commands, and general reputation. It is often on the basis of this 'service reputation' that officers are selected for other duty assignments and for promotion. Thus requiring the commanding officer to certify the candidate's evaluation form and making it a part of his permanent record allows any other commanding officer in the future, when investigating such a man in connection with disciplinary action or in light of other situations where there was a question of the enlisted man's qualifications, to see just who had considered him qualified in the first place and had allowed him to be rated. The writer considers that this system of certification would provide a powerful brake on the tendency to rate a man without regard to his leadership ability just to help him get ahead, and it would require all commanding officers to display a real interest and take an active part in the selection of petty officers.

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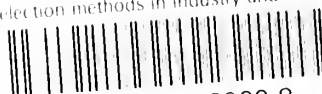
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